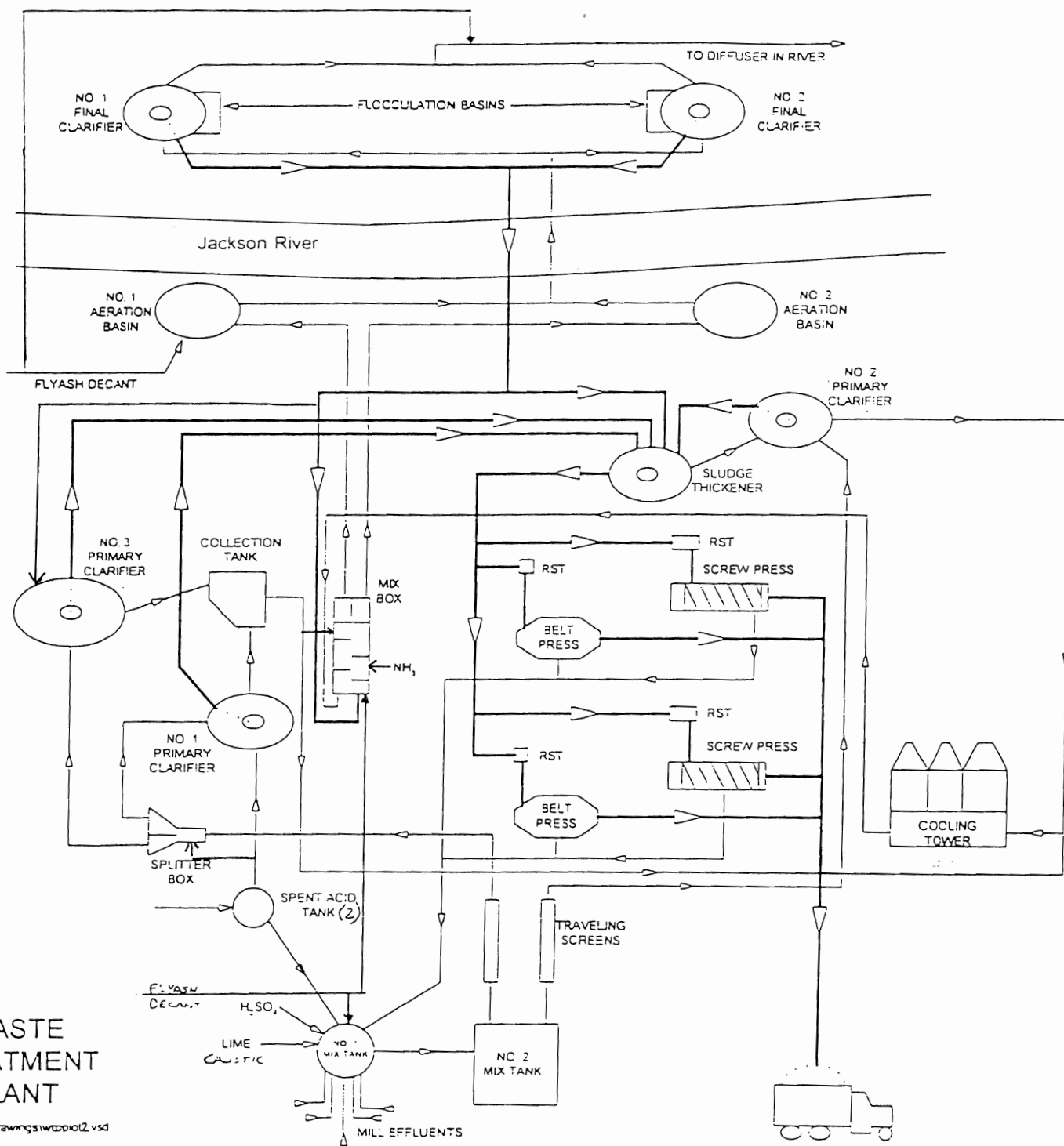


ATTACHMENT A - Wastewater Treatment Plant

1. Schematic of the wastewater treatment system and a listing of treatment plant component volumes and retention times -taken from permit application package.
2. Process Water Flow & Raw Water Process Flow diagrams from application
3. Listing of Facility Environmental Projects - taken from the permit application.
4. Copy of the USGS Covington and Callaghan quadrangles and an aerial image in the vicinity of the facility.
5. Page 1 of EPA Form 2C and associated description of wastewater treatment system units. Taken from the permit application.



WASTE TREATMENT PLANT

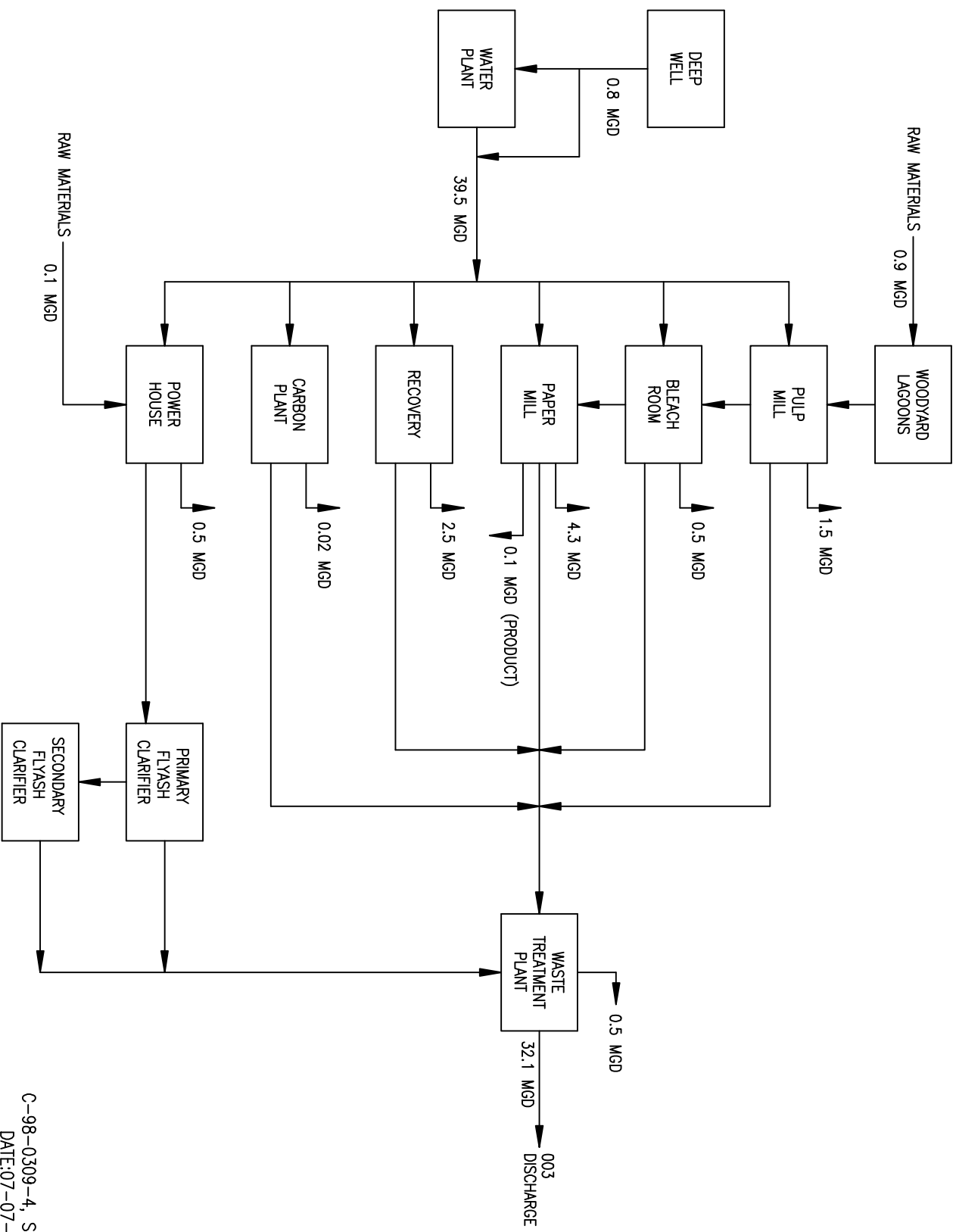
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WASTE TREATMENT PLANT EQUIPMENT INFORMATION

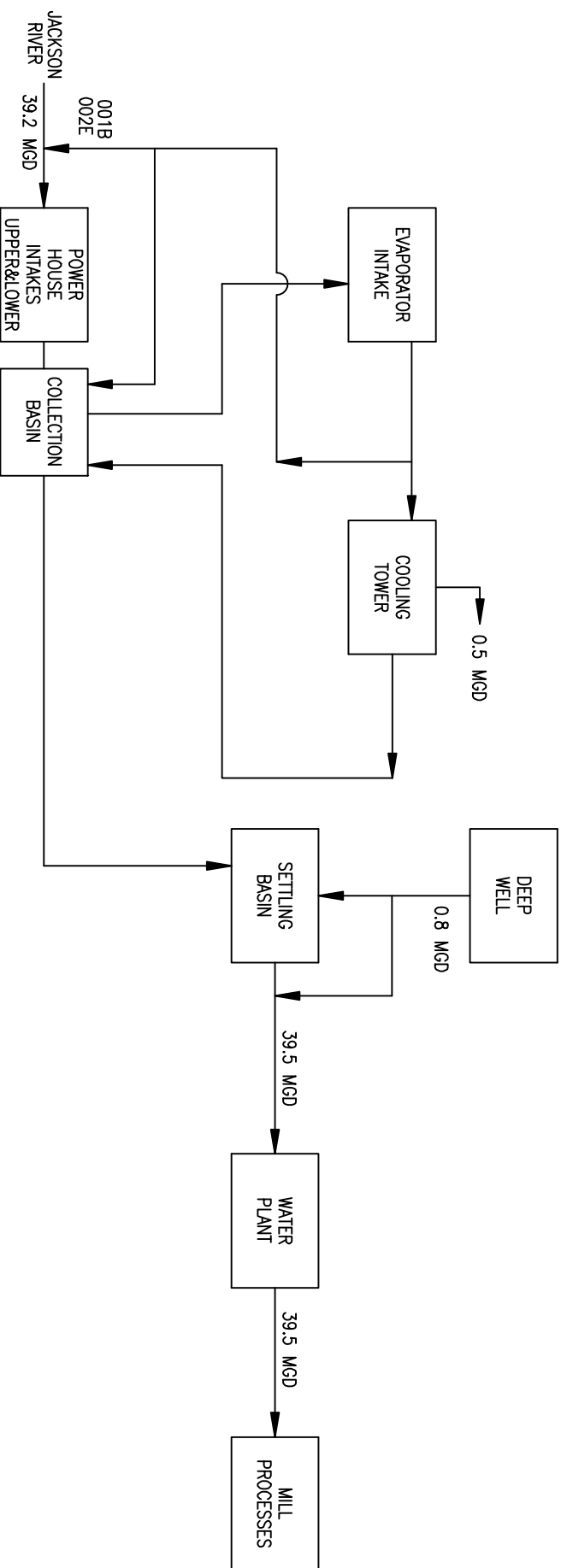
The following equipment is used in the Waste Treatment Plant operation. The sizes of each major piece of equipment are approximations of the volumes based upon the dimensions of the various units. The retention times are calculated based upon the average flows for the year 2010.

Waste Treatment Unit	Volume (Gallons)	Retention Time (Hours)
No. 1 Mix Tank	53000	0.08
No. 2 Mix Tank	53000	0.08
No. 1 Primary Clarifier	930000	3.47
No. 2 Primary Clarifier	930000	3.47
No. 3 Primary Clarifier	2800000	3.48
No. 1 Aeration Plug Flow Basin	1400000	1.27
No. 2 Aeration Plug Flow Basin	1400000	1.27
No. 1 Aeration Complete Mix Basin	1075000	0.98
No. 2 Aeration Complete Mix Basin	1075000	0.98
No. 1 Flocculation Basin	220000	0.20
No. 1 Final Clarifier	5115000	7.64
No. 2 Flocculation Basin	220000	0.20
No. 2 Final Clarifier	5115000	7.64
Thickener	150000	1.53
No. 1 Spent Acid Tank	9400	0.50
No. 2 Spent Acid Tank	9400	0.50

PROCESS WATER FLOW



RAW WATER PROCESS FLOW



Facility Environmental Projects

The following is a summary of key environmental projects that the facility has completed during the term of the current VPDES permit. These projects include upgrades within the process to reduce organic loading to the waste treatment plant, enhancements to improve downstream water quality as well as improvements made to the waste treatment plant to improve the overall treatment process.

New Belt Press. One of the belt presses used for sludge dewatering during periods of heavy demand and periods of outages of the screw presses was replaced. This improved the quality of sludge generated for disposal.

The facility in 2007 committed to meet nutrient limits as defined by Chesapeake Bay Tributary Strategies.

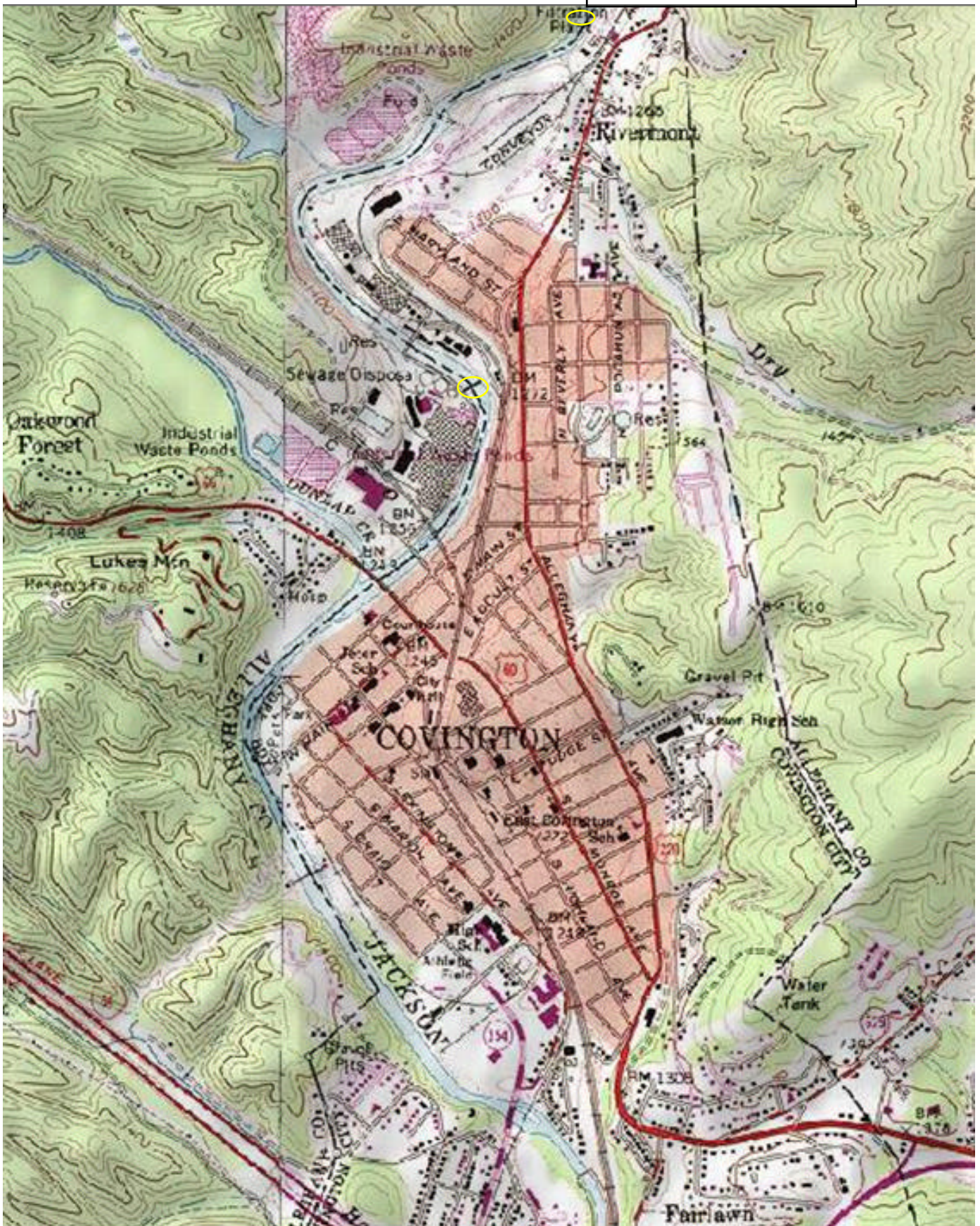
Phosphorus Reduction Project. A number of projects have been completed and more are scheduled to reduce the level of phosphorus discharge from the facility. These projects have been designed to allow for significantly improved treatment of phosphorus and better control of that treatment. These projects include process changes, increased reliability and improved control of the treatment system.

Replaced fill material in kind to improve and maintain WTP Cooling Tower efficiency.

Cleaned process lines (industrial hydroblast) to improve and maintain hydraulic capacity.

Upgraded main WTP Pump Station controls to dampen swings on hydraulic flows during surge events.

Operational data transmitted into Facility PI System to share information between departments and have troubleshooting tool for trending, as well as to store data.



Portion of Covington and Callaghan USGS Quadrangles
(Discharge indicated in oval on Jackson River, upper portion of page)



Portion of aerial map of MeadWestvaco Covington Mill
Including landfill area & Covington city

Form Approved.
OMB No. 2040-0086.
Approval expires 3-31-98.

FORM 2C NPDES		EPA		U.S. ENVIRONMENTAL PROTECTION AGENCY APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURE OPERATIONS <i>Consolidated Permits Program</i>			
I. OUTFALL LOCATION							
For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.							
A. OUTFALL NUMBER <i>(list)</i>	B. LATITUDE			C. LONGITUDE			D. RECEIVING WATER <i>(name)</i>
	1. DEG.	2. MIN.	3. SEC.	1. DEG.	2. MIN.	3. SEC.	
II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES							
A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (<i>e.g., for certain mining activities</i>), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.							
B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.							
1. OUT-FALL NO. <i>(list)</i>	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT				
	a. OPERATION <i>(list)</i>	b. AVERAGE FLOW <i>(include units)</i>	a. DESCRIPTION		b. LIST CODES FROM TABLE 2C-1		

DESCRIPTION OF WATER DISCHARGES

Outfall 003

Facility Wastewater Treatment Plant Discharge

Wastewater Treatment Plant

The wastewater treatment plant is equipped with two mix tanks, a cooling tower, three primary clarifiers, two plug flow aeration basins, two complete mix aeration basins, two final clarifiers, two sludge belt presses, two sludge screw presses, a phosphate removal system, and a sludge thickener.

During normal operation of the wastewater treatment plant, any of these units may be in or out of service for maintenance or operational reasons. A process flow diagram of the wastewater treatment plant is attached.

Wastewater Collection

Process wastewater from the facility and stormwater collected on the industrial site are collected and treated within the facility wastewater treatment plant. Process wastewater consists mainly of water from the woodyard lagoons, carbon plant, unbleached pulp mill, recovery operations, solid waste leachate, bleached pulp mill, paper mill, power generation, sanitary sewage, filtered water plant and the flyash collection system.

The process wastewater is either collected throughout the mill at various pump stations or flows by gravity directly to the waste treatment plant. Major pump stations are equipped with bar screens (Code 1 – T) to remove floating or large material from the wastewater. In the event of an overflow, the East Side pump station overflow can combine with the treated wastewater from the final clarifiers prior to discharging to the river. The flyash decant from the flyash settling basins can be diverted to the mix tanks prior to primary clarification, to the mix box prior to biological treatment, or the end of the biological treatment system prior to final clarification, directly through the 003 outfall.

Primary Clarification

The process wastewater is directed into two mix tanks, where it is blended (Code 1-O) and pH neutralized (Code 2-K). The plant typically uses lime, caustic and sulfuric acid for pH neutralization. The flow from the mix tanks passes through traveling screens (Code 1-T) which remove any additional floating or large materials not removed by the bar screens. After leaving the mix tanks, the wastewater flows into the primary clarifiers. The facility is equipped with three primary clarifiers.

In the primary clarifiers solids are settled (Code 1-U) and removed through the sludge dewatering system. A wastewater stream from the carbon plant is processed separately until the point of primary clarification. The stream is acidic and rich in phosphoric acid. The stream is sent to the phosphate removal system. The phosphate removal system blends (Code 1-O) the acid stream with lime to both neutralize (Code 2-K) and precipitate (Code 2-C) excess phosphorus. The overflow from the phosphate removal system is then sent to the primary clarifiers and combined with the other facility wastewater.

Temperature Control

Most of the clarified water from the primary clarifiers flows to a cooling tower. The remaining water flows directly to biological treatment. The cooling tower is needed to control the wastewater temperature prior to biological treatment. The cooled water flows into a mix box, where nitrogen is added in the form of ammonia and phosphorus may be added, if necessary, in the form of phosphoric acid. Nitrogen and phosphorus are critical nutrients for the biological system and must be maintained at adequate levels to ensure proper operation of the wastewater treatment plant. A defoamer may also be used at any point to reduce foam formation. The wastewater is then combined with a recycle stream from the final clarifier system prior to flowing into the biological treatment system.

Biological Treatment

The biological treatment system uses activated sludge (Code 3-A) to reduce the organic content of the wastewater. The wastewater is split between four plug flow aeration basins. The plug flow region uses air and/or elemental oxygen to provide the necessary oxygen for the process. The wastewater flows from the plug flow aeration basins into two coarse bubble, complete mix aeration basins (Code 3-A) to provide additional retention time for the biological process. The wastewater then flows to the two final clarifiers.

Final Clarification

The final clarifiers (Code 1-U) serve two purposes. First, the final clarifiers settle suspended solids prior to discharging the final effluent to the Jackson River. Second, the final clarifiers return activated sludge to the mix box to combine with fresh wastewater. A polymer may be used to aid settling of the activated sludge. A portion of the returned activated sludge is sent to the sludge removal system to remove excess sludge from the system. A defoamer may be used to reduce foam formation. The treated wastewater is then discharged (Code 4-A) to the Jackson River through a diffuser that spans the width of the river. An effluent oxygenation system is in place and can be operated as needed to maintain DO levels in the river. A side stream oxygenation system is also available to be used in emergency conditions to protect river water quality.

Sludge Removal

The first part of the sludge removal system is the sludge thickener. The sludge thickener combines sludge from the primary clarifiers and the final clarifiers (Code 5-L). The sludge is then pumped to two twin belt presses (Code 5-U) and/or two screw presses (Code 5-R) for dewatering. The sludge is combined with chemical agents to aid in dewatering. The dewatered sludge is then disposed of in an onsite landfill. (Code 5-Q) Future plans of sludge disposal may include beneficial uses such as landfill cover material, a fuel source for onsite boilers and agricultural uses.

The attached diagram from Section 1 identifies the outfalls for the process wastewater.